AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated hereafter.

Claims: [Use [brackets] for deleted matter and underlined for added matter including "New" Claims.]

20. (amended) A method for scanning at multiple resolutions, the method comprising the following steps:

(a) automatically selecting resulting image resolution based on an original image, including the following substeps:

(a.1) when an original image has a width within a first predetermined range, selecting a first resolution, and

(a.2) when the original image has a width within a second predetermined range, selecting a second resolution;

(b) when in step (a) the first resolution is selected, scanning the original image at the first resolution; and, (c) when in step (a) the [first] second resolution is selected, scanning the original image at the [first] second resolution.

21-46. (Canceled)

47. A multiple resolution sensing apparatus, comprising:

at least one first photosensor segment having a plurality of first photosensitive elements for scanning at a first resolution;

at least one second photosensor segment having a plurality of rows, each one of the plurality of rows having a plurality of second photosensitive elements for scanning at a second resolution, the at least one second photosensor segment adjacent to the at least one first photosensor segment, wherein the plurality of second photosensitive elements has a higher density than the plurality of first photosensitive elements so that an image is scanned at a higher resolution with the plurality of second photosensitive elements than with the plurality of first photosensitive elements; and

at least one third photosensor segment having a plurality of third photosensitive elements for scanning at a third resolution, the at least one third photosensor segment adjacent to the at least one second photosensor segment, wherein the plurality of third photosensitive elements has a higher density than the plurality of second photosensitive elements so that the image is scanned at the higher resolution with the plurality of third photosensitive elements than with the plurality of second photosensitive element.

48. An apparatus as in claim 47, wherein each of the plurality of second photosensitive elements are substantially a second size and wherein each element of the plurality of third photosensitive elements is substantially a third size, the second size being larger than the third size.

49. An apparatus as in claim 47, further comprising a means for scanning an image so that the image is first scanned across the at least one first photosensor segment, and then scanned across the at least one second photosensor segment, and then scanned across the at least one third photosensor segment in succession along a scanning path.

50. An apparatus as in claim 49, further comprising a memory so that data corresponding to the image scanned by the at least one first photosensor segment is stored in a first portion of the memory, wherein data corresponding to the image scanned by the at least one second photosensor segment is stored in a second portion of the memory, and wherein data corresponding to the image scanned by the at least one third photosensor segment is stored in a third portion of the memory.

51. An apparatus as in claim 49, further comprising a memory so that a user selects between one of the first photosensor segment, the second photosensor segment and the third photosensor segment such that data corresponding to the image scanned by the selected photosensor segment is stored in the memory.

52-115. (Canceled)

116. The apparatus of claim 121, wherein, in creating the color image of the first resolution, the photosensitive elements of the second photosensor segment also are used.

117. An apparatus as in claim 121, wherein each of the photosensitive elements of the first photosensor segment are substantially a first size and wherein each of the photosensitive elements of the second photosensor segment are substantially a second size, the first size being larger than the second size.

118. An apparatus as in claim 117, further comprising a memory so that data corresponding to the image scanned by the at least one first photosensor segment is stored in a first portion of the memory and wherein data corresponding to the image scanned by the at least one second photosensor segment is stored in a second portion of the memory.

119. An apparatus as in claim 117, further comprising a memory so that a user selects between the at least one first photosensor segment and the at least one second photosensor segment such that data corresponding to the image scanned by the selected photosensor segment is stored in the memory.

120. An apparatus as in claim 121, wherein an image is concurrently scanned across the at least one first photosensor segment and the at least one second photosensor segment along a scanning path such that a pixel area of the apparatus is increased to provide improved image quality.

121. A multiple resolution sensing apparatus, comprising:

at least one first photosensor segment having photosensitive elements for scanning at a first resolution;

at least one second photosensor segment having a plurality of rows, each one of the plurality of rows having photosensitive elements for scanning at a second resolution, the at least one second photosensor segment adjacent to the at least one first photosensor segment; and;

at least one third photosensor segment having photosensitive elements for scanning at a third resolution, the at least one third photosensor segment adjacent to the at least one second photosensor segment,

wherein the photosensitive elements of the second photosensor segment have a higher density than the photosensitive elements of the first photosensor segment so that an image is scanned at a higher resolution with the photosensitive elements of the second photosensor segment than with the photosensitive elements of the first photosensor segment;

wherein, in creating a color image of the first resolution, the photosensitive elements of the first photosensor segment are used;

wherein, in creating a color image of the second resolution, the photosensitive elements of the second photosensor segment are used; and

wherein the photosensitive elements of the third photosensor segment have a higher density than the photosensitive elements of the second photosensor segment so that the image is scanned at the higher resolution with the photosensitive elements of the third photosensor segment than with the photosensitive elements of the second photosensor segment.

122. An apparatus as in claim 121, wherein each of the photosensitive elements of the second photosensor segment is substantially a second size and wherein each of the photosensitive elements of the third photosensor segment is substantially a third size, the second size being larger than the third size.

123. An apparatus as in claim 122, further comprising a memory so that data corresponding to the image scanned by the at least one first photosensor segment is stored in a first portion of the memory, wherein data corresponding to the image scanned by the at least one second photosensor segment is stored in a second portion of the memory, and wherein data corresponding to the image scanned by the at least one third photosensor segment is stored in a third portion of the memory.

124. An apparatus as in claim 122, further comprising a memory so that a user selects between one of the first photosensor segment, the second photosensor segment and the third photosensor segment such that data corresponding to the image scanned by the selected photosensor segment is stored in the memory.

125. A multiple resolution sensing apparatus as in claim 3, further comprising;

a plurality of first photosensor segments coupled together to form a first portion of the linear array and having a first length; and

a plurality of second photosensor segments coupled together to form a second portion of the linear array and having a second length,

such that the sum of the first length and the second length corresponds to a first maximum image size when sensed with the first resolution, and such that the second length corresponds to a second maximum image size when sensed with the second resolution.

126. A multiple resolution sensing apparatus as in claim 125, further comprising;

a plurality of third photosensor segments coupled together to form a third portion of the linear array and having a third length, wherein density of photosensitive elements within the third photosensor segment is greater than density of photosensitive elements in the second photosensor segments such that when scanning at a third resolution the third photosensor segments are used,

such that the sum of the first length, the second length, and the third length corresponds to a first maximum image size when sensed with the first resolution,

such that the second length plus the third length corresponds to a second maximum image size when sensed with the second resolution,

such that the third length corresponds to a third maximum image size when sensed with the third resolution, and

wherein when scanning at the first resolution the first photosensor segment and the second photosensor segment and the third photosensor segment are used, when scanning at the second resolution the second photosensor segment and the third photosensor segment are used, when scanning at the third resolution the third photosensor segment is used.

127. A multiple resolution sensing apparatus as in claim 126, wherein the first resolution, the second resolution, and the third resolution are manually selectable.

128. A multiple resolution sensing apparatus as in claim 126, wherein the first resolution, the second resolution, and the third resolution are automatically selected based upon an original image.

129. A multiple resolution sensing apparatus as in claim 126, wherein density of photosensitive elements within the second photosensor segment is greater than density of photosensitive elements in the first photosensor segment by a factor of four so that the second resolution is twice the first resolution.

130. A multiple resolution sensing apparatus as in claim 129, wherein density of photosensitive elements within the third photosensor segment is greater than density of photosensitive elements in the second photosensor segment by a factor of four so that the third resolution is twice the second resolution and four times the first resolution.

131. A multiple resolution sensing apparatus as in claim 4, wherein the peripheral regions are a first peripheral region and a second peripheral region such that the central region is disposed between the first peripheral region and the second peripheral region, and such that the first photosensor segment is in the first peripheral region, and further comprising a third photosensor segment in the second peripheral region.

132. A multiple resolution sensing apparatus as in claim 131, wherein density of the third photosensor segment equals density of the first photosensor segment.

133. A multiple resolution sensing apparatus as in claim 131, wherein density of the third photosensor segment is greater than density of the second photosensor segment.

134. A multiple resolution sensing apparatus as in claim 131, further comprising a middle section disposed within the central section, the middle section having a fourth photosensor segment wherein density of the fourth photosensor segment is greater than density of the second photosensor segment.

135. A multiple resolution sensing apparatus as in claim 5, wherein the compensation means substantially equalizes the electrical signal of the higher resolution segments with the electrical signal of the lower resolution segments by summing and doubling the signals from the smaller sized photosensitive elements to yield a signal substantially equivalent to the signal produced by the larger sized photosensitive elements.

136. A multiple resolution sensing apparatus as in claim 5, wherein the

compensation means substantially equalizes the electrical signal of the higher resolution segments with the electrical signal of the lower resolution segments by additional amplification of the signals from the smaller sized photosensitive elements to yield a signal substantially equivalent to the signal produced by the larger sized photosensitive elements.

137. A multiple resolution sensing apparatus as in claim 5, wherein the compensation means substantially equalizes the electrical signal of the higher resolution segments with the electrical signal of the lower resolution segments by increasing the light integration time of the signals from the smaller sized photosensitive elements to yield a signal substantially equivalent to the signal produced by the larger sized photosensitive elements.

138. A multiple resolution sensing apparatus as in claim 5, wherein the compensation means substantially equalizes the electrical signal of the higher resolution segments with the electrical signal of the lower resolution segments by increasing the illumination level which generate the signals from the larger sized photosensitive elements to yield a signal substantially equivalent to the signal produced by the smaller sized photosensitive elements.

139. A method as in claim 15, wherein a duplicate segment of the first photosensor segment is disposed such that the duplicate segment and the first photosensor segment are in the peripheral regions.

140. A method as in claim 139, wherein a third photosensor segment is disposed within the central region such that the third photosensor segment enables the following substep:

(a.3) scanning a third portion of the original image using the third photosensor segment, wherein density of photosensitive elements within the third photosensor segment is greater than density of photosensitive elements within the second photosensor segment, such that the third portion of the original image is scanned with a third resolution.

141. A method as in claim 16, wherein the step of substantially equalizing

the electrical signal of the higher resolution segments with the electrical signal of the lower resolution segments is implemented by summing and doubling the signals from the smaller sized photosensitive elements to yield a signal substantially equivalent to the signal produced by the larger sized photosensitive elements.

142. A method as in claim 16, wherein the step of substantially equalizing the electrical signal of the higher resolution segments with the electrical signal of the lower resolution segments is implemented by additional amplification of the signals from the smaller sized photosensitive elements to yield a signal substantially equivalent to the signal produced by the larger sized photosensitive elements.

143. A method as in claim 16, wherein the step of substantially equalizing the electrical signal of the higher resolution segments with the electrical signal of the lower resolution segments is implemented by increasing the light integration time of the signals from the smaller sized photosensitive elements to yield a signal substantially equivalent to the signal produced by the larger sized photosensitive elements.

144. A method as in claim 16, wherein the step of substantially equalizing the electrical signal of the higher resolution segments with the electrical signal of the lower resolution segments is implemented by increasing the illumination level which generates the signals from the larger sized photosensitive elements to yield a signal substantially equivalent to the signal produced by the smaller sized photosensitive elements.